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THE COMPUTER-AIDED INTERNATIONAL RELATIONS TEACHING (CAIR) PACKAGE

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Michigan University

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THE COMPUTER-AIDED INTERNATIONAL
RELATIONS TEACHING (CAIR)
PACKAGE

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THE UNIVERSITY OF MICHIGAN
Department of Political Science
Ann Arbor
48104

THE COMPUTER-AIDED INTERNATIONAL RELATIONS TEACHING (CAIR) PACKAGE

May, 1971

by

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and

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THE INTERNATIONAL DATA ARCHIVE
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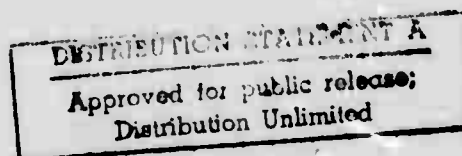
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13 ABSTRACT

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THE COMPUTER AIDED INTERNATIONAL RELATIONS
TEACHING PACKAGE (CAIR)

What is CAIR?

A basic purpose of CAIR is to introduce university students and policy
analysts in government agencies to substantive data analysis in the fields
of international studies. In such an introduction, students and problem
solvers would: (1) become acquainted with some of the important theoretical
questions posed by scholars in the discipline; (2) relate these theoretical
interests to actual and possible measurements; (3) state and test hypotheses;
(4) understand some of the statistical methods useful in testing hypotheses;
(5) discover the short-comings of current applications of statistical analy-
sis; (6) learn about the use of computers in substantive analysis. CAIR
systematically reveals the inter-relationships between research design, data,
statistical analysis, and computer usage.

By working with CAIR, the individual does not become a computer program-
mer, statistician, or political scientist. Hopefully, he will see the role
and limitations of certain tools in the analysis of political and security
problems and have some confidence in his ability to employ these analytical
tools to answer questions of substantive interest. CAIR gives the student
an appreciation of quantitative political science. Moreover, CAIR may teach
a policy analyst how to develop and evaluate his ideas empirically

Only rarely does a policy analyst or student of international politics
want to design and implement an empirical study. Anyone who aspires to be
a responsible scholar or analyst, however, must have the capacity to sift

through the large amounts of quantitative information that are being used increasingly to support or refute policy positions (Philip Burgess, "Future Developments in Data Banks for International Studies," 1971, mimeo.). Moreover, the policy analyst must be capable of utilizing modern data storage and retrieval systems which can aid the recall of past actions and the development and evaluation of current policies.

CAIR teaches the general technical skills which students and decision-makers will require. These skills are not unique to any one field; they are techniques and modes of thought which can be applied across political arenas of every type--bureaucracies, legislatures, international organizations, judicial systems, and academia. CAIR, in itself, is not a tool for substantive analysis. Rather, it is a package designed to teach the skills necessary to use analytic tools which are already available.

CAIR contains a number of data set-software packages. A data set is simply a collection of coded information on certain indicators. These data are punched on IBM cards and are thus machine-readable. The coded information can be fed into a computer which then performs various operations upon these data when instructed to do so. The software component of CAIR is an assortment of statistical routines which the user can operate by prompting the computer with a few simple key words.

Contents of the Projected CAIR Package.

CAIR has three phases. Phase I is to be an elementary introduction to quantitative international affairs written for beginning students. Phase II is to be a set of exercises in interactive computer processing. Although only a few institutions in the country now have interactive systems, the number is likely to grow rapidly in tne next few years. As an alternative, there may

be a version of CAIR which can be adapted to traditional batch computer operations. Phase III is to be a survey of methods and data being used by scholars of international affairs.

Plans for phases II and III involve collections of modules, each of which presents a particular data set, methodology, or theoretical concept. For example, in Phase III one module could be organized around factor analysis and would include selected readings, e.g., Rudolph Rummel, "Dimensions of Conflict Behavior Within and Between Nations," General Systems Yearbook, 8 (1962), 1-50; Raymond Tanter, "Dimensions of Conflict Behavior Within and Between Nations, 1958-60," Journal of Conflict Resolution, 10 (March, 1966), 41-64; see also the Rummel-Tanter codebook for their 1955-1960 conflict data from the International Relations Archive, Box 1248, Ann Arbor, Michigan 48106.

In addition, there would be exercises in the CAIR package using the conflict behavior data from the original Rummel-Tanter studies. The student will not learn factor analysis in one or two lessons, but he will understand that the method exists and can be used for certain limited types of problems.

Here is a tentative outline of the structure and content of Phase I:

1. Introduction and Overview.

    The quantitative approach to international and comparative studies. Some of the data that have been used, the methods employed, and the results obtained. Concept formation, theory, and explanation. Research strategies: survey, case, field, roll call, content, and aggregate analyses. Gaming and simulation. This module will be essentially one for reading; it will not include exercises.

2. A Look at Political Measurement.

Univariate distributions of national attributes.
Presentation of a sample of countries on which students
are asked to calculate the mean, median, standard de-
viation, variance, range, and skewness. Use of compu-
ter programs to find the descriptive statistics of
geographical subsets; e.g., Europe and Latin America
differ with respect to GNP per capita and government
stability. Readings: S. M. Lipset, Political Man,
(Garden City, N. Y.: Doubleday and Co., Inc., 1960), ch. 5;
Philips Cutright, "National Political Development:
Measurement and Analysis," American Sociological Review,
27, (1963), 253-264; Karl W. Deutsch, "To-
ward an Inventory of Basic Trends and Patterns in Com-
parative and International Politics," American Po-
litical Science Review, 54 (1960), 34-57; H.M. Blalock,
Jr., "The Measurement Problem: A Gap between the Lan-
guage of Theory and Research," in H.M. Blalock, Jr. and
A.B. Blalock (eds.), Methodology in Social Research
(New York: McGraw-Hill, 1968), 5-27.

3. Relationships Between Two Variables.

How to operationalize concepts and state hypotheses;
the relationships among models, hypotheses, and data. The
relationship of two variables via cross tabulation. How
to recode interval scales for table building. Meaning and
theoretical implications of recoding and transformations.

How to read a table; how to build one, how not to
be misled.

The relation of interval scales: scatterplot.
Cross tabulation and the loss of information. A
small sample of countries to be included so that
the student can draw by hand his own scatterplot
before generating one by computer. Readings:
Karl W. Deutsch, "Social Mobilization and Polit-
ical Development," American Political Science Re-
view, 55 (1961), 493-514; Ivo K. Feierabend, Rosalind
L. Feierabend, and Betty A. Nesvold, "Social Change
and Political Violence: Cross-National Patterns,"
in Hugh Graham and Ted Gurr (eds.), Violence in
America (New York: Signet Book, 1969), pp. 606-
668.

4.   Spurious Relationships.

An example of a relationship disappearing when
controlled for a third variable in both cross tabu-
lation and scatterplot. Students are given a re-
lationship, told to state their own hypothesis to ex-
plain the relation and use the data to check for pos-
sible spurious correlation. Threats.to valid infer-
ence. Readings: Donald T. Campbell and Julian C.
Stanley, Experimental and Quasi-Experimental Designs
for Research (Chicago: Rand McNally, 1963); Herbert
H. Hyman, Survey Design and Analysis (Glencoe: Free

Press, 1955), ch. 5-7.

5.   Further Controls.

An example of a control which enhances the relationship. Students are asked to try selected variables to see if the relationship is stronger when controls are added.

6.   An Inventory.

Summary and integration of the major ideas and analytical tools presented in the first five lessons.

7.   Mathematizing the Relationship.

(a) Table statistics: chi square and some measures of association applied to previously constructed tables.

(b) Measuring the association between interval scales: correlation. How to interpret a product-movement correlation coefficient. Measuring the relationships found earlier in the scatterplots.

(c) The functional relationship between interval scales: regression. The correlation coefficient does not specify the functional relation of two or more variables as does the regression coefficient.

8.   Application of Correlation and Linear Regression: from Bivariate to Multivariate Analysis.

Calculation of regression and correlation coefficients for earlier scatterplots. Predictor variables

will be added to two variable relationships. For
example, Government stability can be hypothesized
as a result of wealth. One can add other predictors
such as literacy and rate of development. Readings:
Edward Tufte, "Improving Data Analysis in Political
Science," World Politics, 21 (1969), 641-654,
Lipset, op. cit.; Cutright, op. cit.

9.   Inventory and Aid for Writing an Independent Paper.
     Setting the stage for an independent paper. The
student chooses data from among the data sets made
available to him, states hypotheses, conducts the
analysis, and writes the paper. He will be encouraged
to employ a variety of techniques available to him
through the package.

10.   Caution and Epilogue.
     The explanation to the student that he has been ex-
posed to only the rudiments of data analysis. Implicit
models underlying relationships. A brief discussion of
curvilinear regression as well as dimensional analysis,
causal modelling, path analysis, analysis of variance,
time series analysis, simulation, and axiomatic methods.
Appendix: Codebook including data definitions and cod-
ing procedures. Additional information on software.

The CAIR modules are designed to fit a variety of teaching needs. An in-

structor may use only the basic introductions to statistical methods or only a specific lesson dealing with a particular data set. The modules can be used in almost any combination or any order. The student will progress from readings to desk calculation to computer analysis. Each module is self-contained, consisting of information about the models, methods, and data sets under consideration. Readings from the field, exercises, and specific instruction on computer usage will be provided when applicable.

A typical module will begin with an explanation of the importance of some measurement or operation, e.g., the relation of two variables, and will give a few well-chosen examples from the literature of international studies. Exercises will then allow similar constructions or tests using the variables employed in the readings. Some exercises will require ordinary workbook type responses, i.e., they will ask for hand construction of tables, scatterplots, or calculations done on paper or desk calculator. Other exercises will require computer usage. For the computer use, explicit instructions are planned.

CAIR will not be a software package; it will use software packages. There will be two versions of CAIR: one geared to SPSS and the other to OSIRIS.[*] The two versions of CAIR will differ only in instructions for computer use. The reason for two versions is to allow for wider distribution. Perhaps 30-35 schools already have OSIRIS; a somewhat larger number have SPSS. A subset of OSIRIS, which would meet all the needs of CAIR, is being developed for export to other schools at a cheaper rate than the full OSIRIS package. CAIR then could be used in schools with the full OSIRIS, SPSS, the subsetted OSIRIS, or

---

[*]SPSS is the Statistical Package for the Social Sciences; see Norman Nie, Dale H. Bent, C. Hadlai Hull, SPSS: Statistical Package for the Social Sciences (New York: Mc Graw-Hill, 1970). OSIRIS is the Organized Set of Integrated Routines for Investigation with Statistics; see OSIRIS II, MTS User's Manual (Ann Arbor: Inter-University Consortium for Political Research, 1970).

with other packages such as BMD.

At present, the software system consists of an interface between data sets and the CONSTAT (Console Statistics) program at The University of Michigan. For users with access to MTS, this arrangement is very satisfactory. The CONSTAT system is user-oriented and interactive in addition to being powerful and relatively inexpensive.

An Example of the Use of CAIR

A simple example will show how the CAIR package helps a student or policy analyst learn techniques which will aid him in his work. One important concern of political analysts is the level of instability within foreign countries. The National Attribute and Conflict Behavior data set, a data set in CAIR, contains a number of indicators the analyst would find useful (see Appendix I). Now follow step by step to see how an individual might be introduced to data analysis via CAIR.

First, at his remote terminal the user establishes contact with the computer via telephone. After supplying his signon I.D. and password, he links up to CAIR:*

```
#$sig saax pw=zilch
#**LAST SIGNON WAS:  19:34.22 05-09-71
#USER "SAAX" SIGNED ON AT 13:25.10 05-10-71
#$source saae:cair
#EXECUTION BEGINS
```

---

*In the example to follow, the keywords entered by the user are in lower case letters and the computer replies are in upper case. This is how the printout would actually appear.

When the computer has processed these instructions and is ready to continue, it responds with:

WHICH COMMAND?

The user is now ready to begin his analysis. Suppose he is interested in the relationship between the number of diplomats a nation has sent abroad and its internal instability as indicated by the total number of riots experienced within its borders. The analyst may suspect that nations experiencing internal turmoil send many diplomats abroad to quell foreign apprehension about the stability of the government they represent.* From the codebook (Appendix I), he finds that the variable numbers for these two indicators (DIPL A and RIOTS) are 16 and 8, respectively. He next communicates with the computer as follows:

```
WHICH COMMAND?
corr

ENTER INDICES OF VARIABLES FOR WHICH YOU WANT CORRELATIONS,
OR ENTER "ALL".
1o,8

CORRELATIONS

  110 OBSERVATIONS


VARIABLE

DIPL A          1.0000

RIOTS           0.6495    1.0000

                DIPL A    RIOTS
```

---

*This hypothesis implies a temporal relationship between the two variables, while the data set contains cross-sectional information. Hence, there is some slippage between the model and the design employed. Nevertheless, the data are adequate for pedagogical purposes as long as one is aware of the short-comings in the design.

The correlation of .65 indicates a relatively strong positive relation-
ship between the two variables: the more diplomats abroad a nation has, the
more riots it tends to have. This correlation does not imply a direct causal
link between the two variables but simply describes the association uncovered,
which may in fact be spurious. The problem of spuriousness is one that often
plagues correlational studies. Indeed, policy analysts may become disenchanted
with correlational studies because of their failure to control extraneous
variance, e.g., variance which might account for the obtained relationships but
which has not been specified explicitly. In order to make a valid inference,
the analyst must be aware of common threats to validity.

In the example relating diplomats abroad and domestic riots, one threat
to a "causal inference" may concern the failure to control for the level of
economic development. That is, highly developed countries may have many dip-
lomats abroad and have many riots. Thus, GNP per capita may explain both
diplomats and riots. To test for the relevance of development in accounting
for the obtained relationship ($r = .65$), the user can use an operation
called partial correlation. He decides to control for the indicator GNP per
capita, which is variable 5. The interaction between user and computer is as
follows:

```
WHICH COMMAND?
pcor

ENTER INDICES OF CONDITIONED VARIABLES
10,8

ENTER INDICES OF CONDITIONING VARIABLES
5

MATRIX OF PARTIAL CORRELATION COEFFICIENTS
CONDITIONING VARIABLES: GNP/CP,
DIPL A          1.0000
RIOTS           0.6494    1.0000

           DIPL A    RIOTS
```

The partial correlation is identical to the original correlation, indicating that the control factor, GNP per capita, exerted no known influence upon the relationship between diplomats abroad and riots.

Next, the user constructs a scatterplot of the relationship between DIPL A and RIOTS:

```
WHICH COMMAND?
plot

ENTER VARIABLE INDICES IN THE FORM:   HORIZ. VAR., VERT. VAR.
10,8


      PLOT OF DIPL A (HORIZ.) VS. RIOTS  (VERT.)    NO. OF OBS. =     119
              I +---------+---------+---------+---------+
      509.0   +                                         1
              I
              I
              I
      424.2   +
              I
              I
              I
      339.3   +
              I
              I
              I
      254.5   +
              I         1
              I
              I
      169.7   +
              I
              I    1    1
              I
      84.83   +    1
              I 1111
              I 14   21
              I 4G412 11 11          1
  0.1221D-03 +XXC7723 1          1 1
              -+---------+---------+---------+---------+
            2.000              1392.                2782.
                    697.0             2087.
```
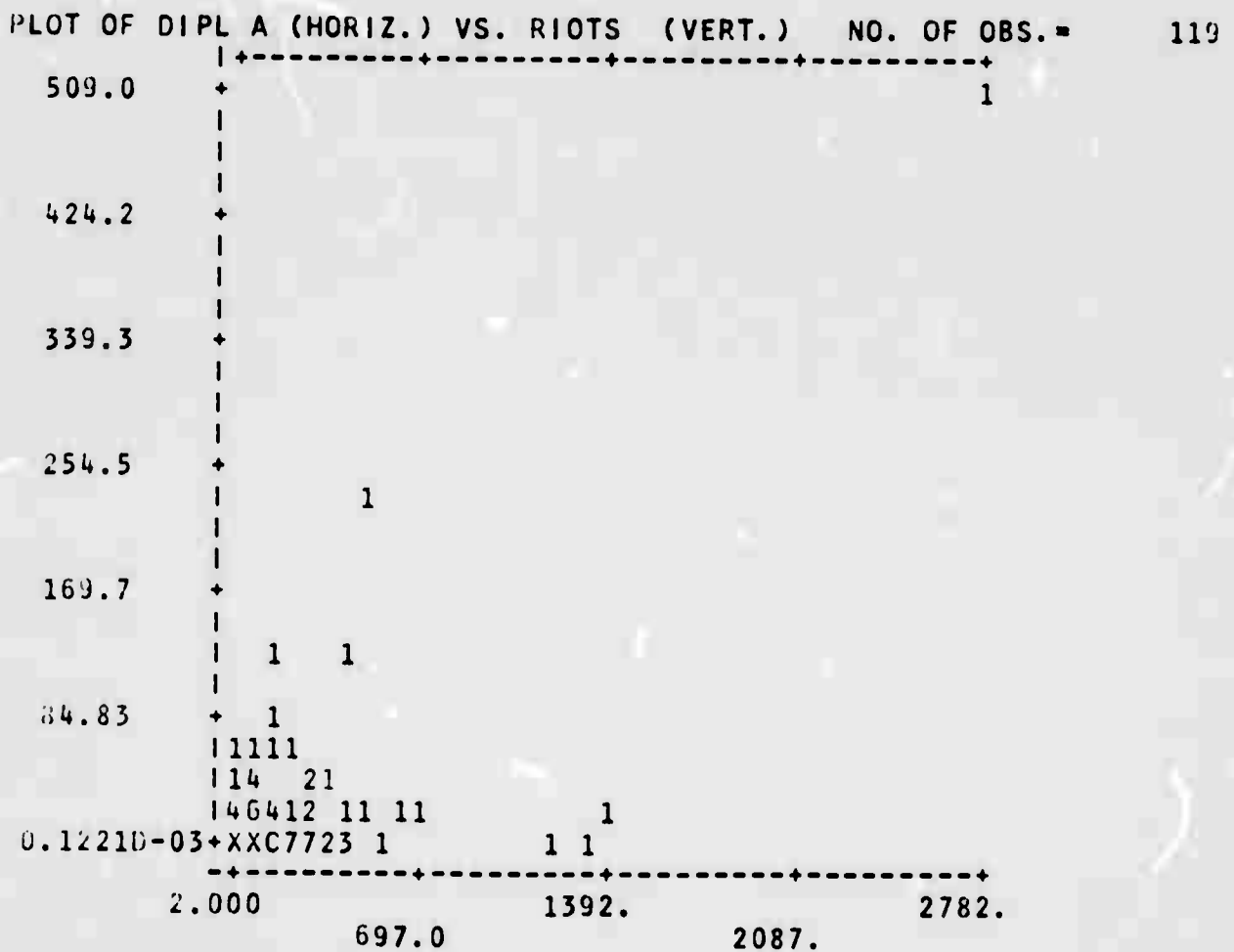
The plot shows that nearly all the nations are clustered at the low end
of both variables. Also, one nation appears to diverge sharply from this
pattern.

The user chooses to delete this divergent case (using a procedure which
will not be described here) and re-plot the data. The user-computer interaction
proceeds:

```
WHICH COMMAND?

plot

WHICH GROUPS?
1

ENTER VARIABLE INDICES IN THE FORM: HORIZ. VAR.,VERT. VAR.
10,8

PLOT OF DIPL A (HORIZ.) VS. RIOTS (VERT.)    NO. OF OBS. =      113
              I +---------+---------+---------+---------+
      232.0   +                   1
              I
              I
              I
      193.3   +
              I
              I
              I
      154.7   +
              I
              I
              I          1
      116.0   +                 1
              I
              I
              I        1
      77.33   +
              I      1   1
              I 1      1
              I    1         1
      36.67   +1 12      2
              I      1      1
              I13113 11    1    1   1
              I3464 3112    11        1                       1 1
 0.5104E-04+ADJ282233 21       1                 1
              -+---------+---------+---------+---------+
              2.000              702.5             1403.
                        352.2            1053.
```
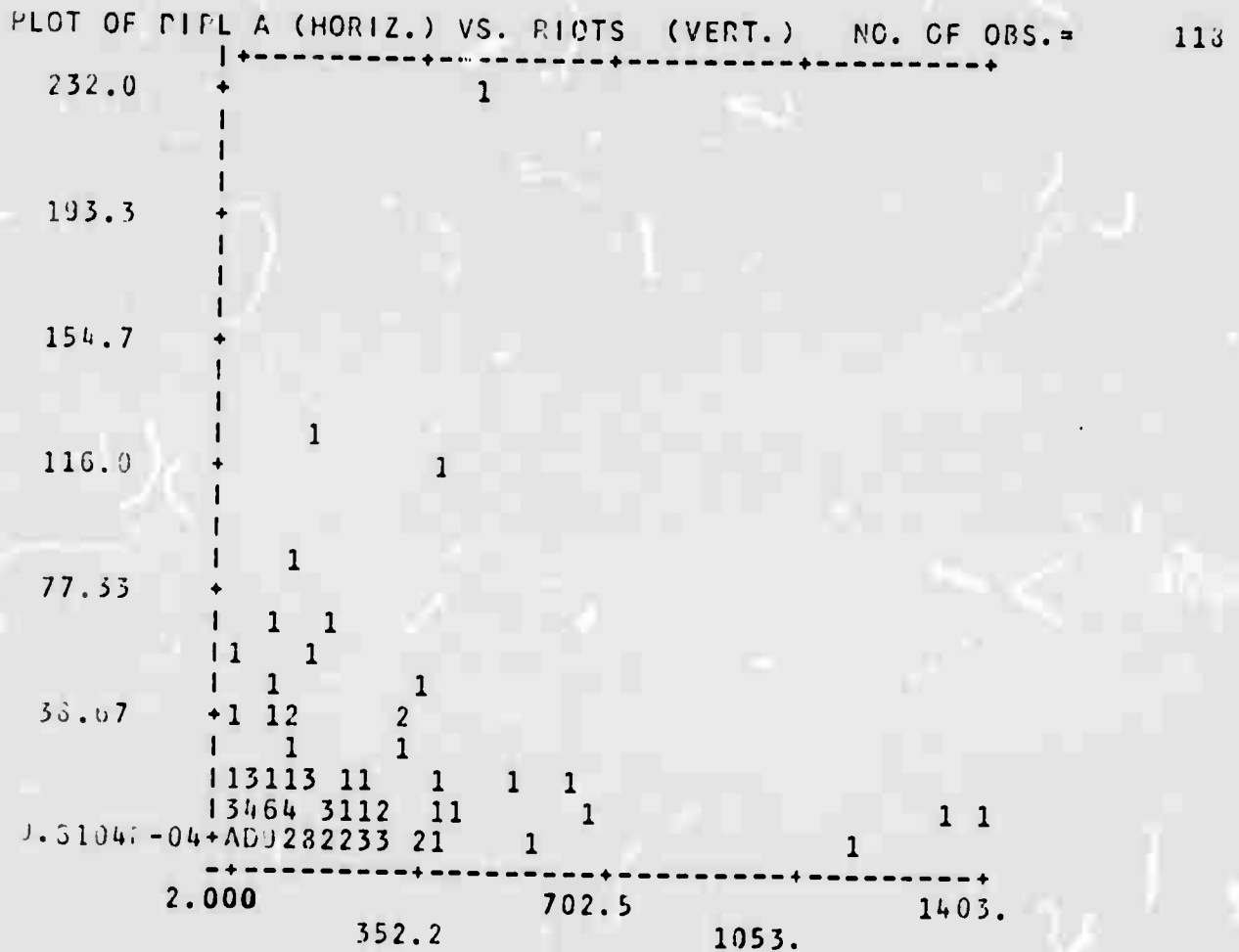
The new plot indicates very little relationship between the two variables. No linear pattern is apparent. To test his suspicion that when the one divergent case is removed, the relationship "disappears," the user recalculates the correlation--minus the single case.

```
WHICH COMMAND?
corr

ENTER INDICES OF VARIABLES FOR WHICH YOU WANT CORRELATIONS,
OR ENTER "ALL".
10,8

CORRELATIONS

  118 OBSERVATIONS


VARIABLE

DIPL A          1.0000

RIOTS           0.1177   1.0000

                DIPL A   RIOTS
```

The small (.12) relationship indicates that the original large correlation (.65) was due to one case which distorted the true association between diplomats and riots. The user has learned that it can be misleading to interpret correlations without further investigation. He has also learned that a threat to valid inference may involve the nature of the bivariate distribution. When there are two skewed distributions, e.g., when one country is an outlier on both diplomats and riots, the user should be aware of and control for the distorting effects of the skewness. Finally, the user has become more confident in working with a computer and has employed the partial correlation and scatterplot routines.

The example above omits many important aspects of data analysis. There

is no discussion of other techniques that could be employed, or other variables that one might like to examine. The printed modules which accompany each CAIR exercise, however, would deal with these topics as well as provide examples from political science literature.

Further information on the currently available CAIR data set-software package may be obtained by writing to Raymond Tanter, Director of the International Data Archive, Department of Political Science, University of Michigan, Ann Arbor, Michigan 48104.

APPENDIX I.   NATIONAL ATTRIBUTE AND CONFLICT BEHAVIOR DATA SET

This data set consists of 20 variables for 136 countries for the period circa 1960-1965. The variables are divided into three general categories: 1) "demographic," such as population and literacy rate; 2) "economic," such as Gross National Product per capita or energy consumption per capita and 3) "political," variables which comprise most of the data set. This third category is further divided into two sub-categories: (a) "structural" variables such as number of diplomatic missions stationed abroad and membership in international organizations and (b) "event" variables such as number of riots, deaths by domestic violence, anti-government, riots, etc.

R/S/S COUNTRY CODE: The country code numbers were assigned by Bruce M. Russett, J. David Singer, and Melvin Small in "National Political Units in the Twentieth Century: A Standardized List," The American Political Science Review, LXII (Sept., 1968), 932-951.

REGION: The criteria for including or excluding various countries in a given region are, in general order of importance (a) geographical (b) demographic. For example, East Germany should be included in Western Europe according to the geographical criterion, but since its political and military alignments are with Eastern European countries, it was included in Eastern Europe. Conversely, Greece was included in Western Europe because of its political alignments, despite its Eastern European geographical location. The Sudan was included in Africa because of the geographical criterion and because the majority of its population is African rather than Arab even though its political and military alignments would place it in the Near East with the United Arab Republic.

A complete list of country names, I.D. numbers and regions follows page 18.

TOTAL POPULATION IN THOUSANDS 1965: Variable 7 is taken from Charles Taylor & Michael Hudson (eds.), World Handbook of Political and Social Indicators 2nd ed., 1971.

ETHNO-LINGUISTIC FRACTIONALIZATION: This index represents the probability that two randomly selected individuals in a nation will differ in ethnic origin or language.

Variable Source: Taylor and Hudson (eds.), World Handbook of Political and Social Indicators, 2nd ed.

GNP/PER CAPITA 1965: Gross National Product per capita is reported in constant 1965 prices in millions of U.S. dollars divided by the total population of each country. Included is GNP per capita even for those countries

which normally report their accounts in terms of net material product or other concepts.

Variable Source: Taylor and Hudson (eds.), <u>World Handbook of Political and Social Indicators</u>, 2nd ed.

PARTY FRACTIONALIZATION: Data were gathered for one election between 1963 and 1968 within each country. Indexes of fractionalization are based upon the party cleavages in the lower (or only) branch of the legislature. Fractionalization indicates the likelihood that two randomly selected members of the legislature will belong to different parties.

Variable Source: Taylor and Hudson (eds.), <u>World Handbook of Political and Social Indicators</u>, 2nd ed.

PRESS FREEDOM INDEX 1965: The Press Freedom Index was created by the School of Journalism, University of Missouri. It is designed to measure the independence of a nation's broadcasting and press system and its ability to criticize its own local and national governments. The index is composed of the judgments of panels of indigenous and foreign newsmen on 23 aspects of the press (e.g., extent of legal controls, licensing, government ownership, criticism, and censorship). The index consists of averages of the judges' scores and has a range from -4.00 for least freedom to +4.00 for most freedom.

Variable Source: Taylor & Hudson (eds.), <u>World Handbook of Political and Social Indicators</u>, 2nd ed.

RIOTS 1963-67: Riots are defined as any violent demonstration or clash of a large number of citizens. "Violent" here denotes the use of physical force characterized by the destruction of property, the wounding or killing of people, or the use of riot control equipment such as clubs, gas, fire arms, or water cannons by the authorities and various weapons by the rioters. Riots are distinguished from demonstrations in that they are violent and from armed attacks in that they are spontaneous in nature.

Variable Source: Taylor and Hudson (eds.), <u>World Handbook of Political and Social Indicators</u>, 2nd ed.

DEATHS 1963-67 FROM POLITICAL VIOLENCE: Deaths from political violence consists of the number of deaths reported in conjunction with riots, political strikes, and armed attacks. It <u>includes</u> citizens of the country who die participating in foreign intervention, but not foreigners. It <u>excludes</u> assassination victims, murders, executions, deaths in enemy prisons, deaths in formal warfare, or deaths in border incidents. Reports of "casualties" or "victims" are not counted; the report must specify deaths.

Variable Source: Taylor & Hudson (eds.), <u>World Handbook of Political and Social Indicators</u> 2nd ed.

ARMED ATTACKS 1963-1967: Armed attacks are defined as any act of violence committed by an organized group or by an individual involving the use of

weapons of any kind intended as a protest or revolt against a government, one or more of its leaders, or its actions or policies; an attack on a group within the society such as a religious, ethnic, racial, or special interest group. Armed attacks are differentiated from guerrilla or civil wars by the following criterion: Armed attacks <u>do not</u> exceed a level of violence such that the government can no longer control it by normal punitive measures. When this threshold is exceeded and a state of civil rebellion exists, <u>both</u> the government's actions and the rebel's actions are considered to be armed attacks.

Armed attacks <u>include</u> attacks on government buildings and personnel as well as village bombings and other acts of sabotage, terrorism, and governmental responses in kind against a rebel group. <u>Excluded</u> from this variable are sporadic events which have no discernible political significance, events organized and carried out by foreign groups within the country (except in the case of colonies where the metropole's forces engage native forces), the confrontation of the armed forces of two or more countries in a <u>de facto</u> war zone, and raids and arrests by the authorities.

Variable Source: Taylor & Hudson (eds.), <u>World Handbook of Political and Social Indicators</u> 2nd ed.

<u>ANTI-GOVERNMENT DEMONSTRATIONS 1963-1967:</u> Anti-government demonstrations are defined as any non-violent gathering of people for the purpose of protesting against a government, its actions or policies, or one or more of its leaders. This variable <u>includes</u> demonstrations for or against a foreign government, its policies, its leaders or visiting representative(s), where such a demonstration implies opposition to the demonstrators' own government as well. <u>Excluded</u> are election meetings or rallies, boycotts, or demonstrations that become riots. (Cf. riots.)

Variable Source: Taylor & Hudson (eds.), <u>World Handbook of Political and Social Indicators</u> 2nd ed., 1969.

<u>LITERACY 1965:</u> Literacy is defined as the ability both to read and to write. Hence, persons who can read but who cannot write are classified as illiterates. Persons whose literacy is unknown are excluded from the calculation in both numerator and denominator. The data refer to the percentage of total population over 15 years of age who can both read and write.

Variable Source: Taylor & Hudson (eds.), <u>World Handbook of Political and Social Indicators</u>, 2nd ed., 1969.

<u>ENERGY CONSUMPTION PER CAPITA:</u> These data are expressed in terms of coal equivalents, i.e., the quantity of coal it would have taken to produce the electricity generated by water and nuclear power or the heat value of oil and natural gas expressed in terms of coal.

Variable Source: Taylor and Hudson (eds.), <u>World Handbook of Political and Social Indicators</u>, 2nd ed.

EDUCATION EXPENDITURES ($) PER CAPITA 1965: This variable was derived by
dividing total education expenditures in U.S. dollars by total population
for each country. Expenditures for education as defined by the 1958 General
Session of UNESCO. These are (a) pre-school, (b) primary, (c) secondary and
(d) university levels. The data include expenditures of all levels of govern-
ment wherever possible. In some cases, however, data refer only to ministry
of education or central government expenditures. Private expenditures assigned
to private education are excluded except in the cases of Japan and India.

        Variable Source: Taylor & Hudson (eds.), World Handbook of Political
and Social Indicators, 2nd ed.

TOTAL INTERNATIONAL ORGANIZATIONS MEMBERSHIPS: Data for this variable refer
to the number of United Nations affiliated organizations to which a particular
nation belongs, plus the non-U.N. international organizations to which a
country belongs. Associate memberships, observers, "participating countries"
(i.e., participating in activities of an international governmental organiza-
tion but not as a formal member) are excluded from this variable. The total
number of international organizations is 209, 16 of which are U.N. affiliates.

        Variable Source: Taylor & Hudson (eds.), World Handbook of Political
and Social Indicators, 2nd ed.

NUMBER OF DIPLOMATIC MISSIONS ABROAD: This variable consists of the number
of nations to which a country sent diplomats. Data for the period 1963-1964.

        Variable Source: Taylor & Hudson (eds.), World Handbook of Political
and Social Indicators, 2nd ed.

DEFENSE EXPENDITURES ($) PER CAPITA 1965: This variable was derived by
dividing each country's total military expenditures by its total population.
Defense expenditures are defined as current and capital expenditures to meet
the needs of the armed forces, and cover all expenditures of national de-
fense agencies other than for largely civilian projects, as well as the dis-
tinguishable military component of such mixed activities as atomic energy,
space, research and development, and para-military forces. Where possible,
military assistance to foreign countries, retirement pensions of career
personnel, and military equipment stockpiling are included. Civil defense,
civilian space, and industrial stockpiling are excluded.

        Variable Source: Taylor & Hudson (eds.), World Handbook of Political
and Social Indicators, 2nd ed.

GOVERNMENT ACTION AGAINST SPECIFIC GROUPS, 1960-1965: This variable is de-
fined as governmental seizure or detainment of an individual for political
reasons. This definition includes imprisonment or jailing. It is limited
to politically motivated arrests. It excludes arrests for non-political
reasons and arrests of foreign nationals for acts of espionage or subversion.
Arrests of nationals, however, are included even though the charge against
them is spying for a foreign regime.

Variable Source: Ivo K. Feierabend, Rosalind L. Feierabend, and Betty A. Nesvold, Political Events Project: 1948-1965. Inter-University Consortium for Political Research, 1971.

GUERRILLA WAR, 1960-1965: Guerrilla warfare is defined as activity by mobile and scattered forces aimed at the ultimate overthrow of the government. Guerrilla warfare is distinguished from revolts (an armed attempt on the part of a group to form a government) or civil wars, by the irregular tactics employed. These usually take the form of attacks on villages and outposts, kidnappings, etc.

Variable Source: Feierabend, Feierabend and Nesvold, Political Events Project: 1948-1965, 1971.

CIVIL WARS 1960-1965: Civil War is defined as all out war between two or more organized major segments of the population in a given country. It is distinguished from guerrilla warfare in that each side has its own government and conventionally organized armed forces, and involves the entire nation. Armed conflict is usually continuous and involves large numbers of combattants on each side. It is possible for a guerrilla war or revolt to escalate into a civil war as the scope, frequency and intensity of military violence increases.

Variable Source: Feierabend, Feierabend and Nesvold, Political Events Project: 1948-1965, 1971.

The organization of the computerized CAIR data may be illustrated as follows:

Variables

```
              1 2 3 . . . . . . . . . . . . . 20
            1 ┌──────────────────────────────────
            2 │
            3 │
            . │
            . │
            . │
 Nations    . │
            . │
 (Cases)    . │
            . │
            . │
            . │
            . │
          136 │
```

Data Format, Missing Data Codes and Variable Labels

Each variable has a label which is used to refer to the variable in the machine.

All variables have the format of F10.3 and a missing data code of 999999.0

Variable Number	Variable Name	Label	Variable Number	Variable Name	Label
1	R/S/S Country code	C-CODE	11	Anti-government demonstrations	DEMONS
2	Region	REGION	12	Literacy	LITER
3	Total Population per 1000	POP/TH	13	Energy Consumption per capita	ENERGY
4	Ethno-linguistic frac-tionaliztion	EL-FRC	14	Education $ per capita	EDUCAT
5	GNP/Capita	GNP/CP	15	International Organi-zation Membership	INT MB
6	Party Fractionaliza-tion	PTY/FC	16	Diplomatic missions	DIPL A
7	Press Freedom Index	PRS IN	17	Defense expenditure/capita	DEFN $
8	Riots 1963-67	RIOTS	18	Government action against specific groups	ACTN G
9	Deaths from political violence	DEATHS	19	Guerrilla war, 1960-65	GUERRL
10	Armed Attacks	ATTACK	20	Civil wars, 1960-65	CIVL W

THE FOLLOWING LIST CONTAINS THE NAMES, COUNTRY CODES, AND REGION CODES OF THE 136 NATIONS INCLUDED IN THIS DATA SET

R/S/S Code	Country	Region Index	R/S/S Code	Country	Region Index	R/S/S Code	Country	Region Index	R/S/S Code	Country	Region Index
053	Barbados	1	395	Iceland	3	820	Malaysia	6	481	Gabon	8
020	Canada	1	205	Ireland	3	712	Mongolia	6	452	Ghana	8
040	Cuba	1	325	Italy	3	731	North Korea	6	438	Guinea	8
042	Dominica	1	212	Luxembourg	3	816	N. Vietnam	6	437	Ivory Coast	8
041	Haiti	1	338	Malta	3	840	Philippine	6	501	Kenya	8
051	Jamaica	1	210	Netherlan	3	830	Singapor	6	570	Lesotho	8
070	Mexico	1	385	Norway	3	732	South Korea	6	450	Liberia	8
006	Puerto Rico	1	235	Portugal	3	817	S. Vietnam	6	620	Libya	8
052	Trinidad	1	230	Spain	3	713	Taiwan	6	580	Malagasy	8
002	U.S.A.	1	380	Sweden	3	800	Thailand	6	553	Malawi	8
160	Argentina	2	225	Switzerlan	3	352	Cyprus	7	432	Mali	8
145	Bolivia	2	200	United K.	3	630	Iran	7	435	Mauritan	8
140	Brazil	2	255	West Germ	3	645	Iraq	7	590	Mauritiu	8
155	Chile	2	339	Albania	4	666	Israel	7	600	Morocco	8
100	Colombia	2	355	Bulgaria	4	663	Jordan	7	541	Mozambique	8
094	Costa Rica	2	315	Czechol	4	690	Kuwait	7	436	Niger	8
130	Ecuador	2	310	Hungary	4	660	Lebanon	7	475	Nigeria	8
092	El Salva	2	290	Poland	4	670	Saudi Arabia	7	552	Rhodesia	8
090	Guatamala	2	360	Rumania	4	680	S. Yemen	7	517	Rwanda	8
110	Guyana	2	365	U.S.S.R.	4	652	Syria	7	433	Senegal	8
091	Honduras	2	345	Yugoslav	4	640	Turkey	7	451	Sierra Leone	8
093	Nicaragua	2	700	Afghanis	5	651	U.A.R.	7	520	Somalia	8
095	Panama	2	780	Ceylon	5	678	Yemen	7	560	South Africa	8
150	Paraguay	2	750	India	5	615	Algeria	8	625	Sudan	8
135	Peru	2	781	Maldive	5	540	Angola	8	510	Tanzania	8
165	Uruguay	2	790	Nepal	5	571	Botswana	8	420	The Gamb	8
101	Venezuela	2	770	Pakistan	5	516	Burundi	8	461	Togo	8
305	Austria	3	775	Burma	6	471	Cameroon	8	616	Tunisia	8
211	Belgium	3	811	Cambodia	6	482	Central	8	500	Uganda	8
590	Denmark	3	710	China	6	483	Chad	8	439	Upper Vo.	8
265	East Germany	3	720	Hong Kong	6	484	Congo, B	8	551	Zambia	8
375	Finland	3	850	Indonesia	6	490	Congo, K	8	900	Australia	9
220	France	3	740	Japan	6	434	Dahomey	8	920	New Zealand	9
350	Greece	3	812	Laos	6	530	Ethiopia	8	910	Papua/Ne.	9

1 = NORTH AMERICA, CARIBBEAN AND MEXICO

2 = CENTRAL AND SOUTH AMERICA

3 = WESTERN EUROPE

4 = EASTERN EUROPE

5 = CENTRAL ASIA

6 = FAR EAST

7 = MIDDLE EAST

8 = AFRICA (INCLUDING NORTH AFRICA)

9 = OCEANIA